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ABSTRACT

This study of public parks and recreation agencies throughout the United States was undertaken to develop a mathematical pricing formula sensitive to local spending abilities in order to determine if a per capita pricing structure would be possible. Four hundred and seventy public parks and recreation agencies responded to a survey of fees and charges, pricing structures, resident versus nonresident pricing differences, program options and charges, employment demands, usage figures, and population and budget sizes. The data gathered make it possible to establish national, regional, and local per capita income levels; develop national average pricing structures for parks and recreation agencies; and determine a mathematical model of pricing. A per capita pricing worksheet is presented with a formula that can be applied on a national or regional basis, or be used for state comparisons. A specific zoning approach may be used to reflect the differences of income for a poverty versus an affluent area within the same community, each requiring different pricing strategies. (JD)

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Pricing Public Parks and Recreation Services as a Percent of Per Capita Income:

The Creation of a National Pricing Model

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This project was funded through an initiative grant provided by the American Association for Leisure and Recreation (AALR) of the American Alliance for Health, Physical Education, Recreation and Dance.

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AAALR AMERICAN ASSOCIATION FOR LEISURE AND RECREATION

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III

Purposes of the American Alliance For Health, Physical Education, Recreation and Dance

The American Alliance is an educational organization, structured for the purposes of supporting, encouraging, and providing assistance to member groups and their personnel throughout the nation as they seek to initiate, develop, and conduct programs in health, leisure, and movement-related activities for the enrichment of human life.

Alliance objectives include:

1. Professional growth and development and conduct of programs in health, leisure, and movement-related activities which are based on the needs, interests, and inherent capacities of the individual in today's society.
2. Communication -- to facilitate public and professional understanding and appreciation of the importance and value of health, leisure, and movement-related activities as they contribute toward human well-being.
3. Research -- to encourage and facilitate research which will enrich the depth and scope of health, leisure, and movement-related activities; and to disseminate the findings to the profession and other interested and concerned publics.
4. Standards and guidelines -- to further the continuous development and evaluation of standards within the profession for personnel and programs in health, leisure, and movement-related activities.
5. Public affairs -- to coordinate and administer a planned program of professional, public, and governmental relations that will improve education in areas of health, leisure, and movement-related activities.
6. To conduct such other activities as shall be approved by the Board of Governors and the alliance Assembly, provided that the Alliance shall not engage in any activity which would be inconsistent with the status of an educational and charitable organization as defined in Section 501 (c)(3) of the Internal Revenue Code of 1954 or any successor provision thereto, and none of the said purposes shall at any time be deemed or construed to be purposes other than the public benefit purposes and objectives consistent with such educational and charitable status.

Bylaws, Article III

ABSTRACT

Four hundred seventy (470) public parks and recreation agencies responded to a data gathering instrument sent to six hundred (600) agencies in which the seventy-eight and three-tenths (78.3%) percent respondents detailed their agencies pricing structures for recreation centers, lessons, leagues and tournaments. It was found that thirty-three and one-half (33.5%) percent of the agencies provide a recreation center in which twenty-three (23%) percent charge an entry fee which averages $2.65 for residents. Five and one-half (5.5%) percent of the agencies charge non-residents an additional fee amounting to fourteen (14%) percent increase of the resident fee. Forty-four and three-tenths (44.3%) percent offer additional entitlements to the patron after entrance in which thirty three and three-quarters (33.75%) percent charge an additional fee averaging $1.94. Such entitlements as showers/lockers at sixty-two and one-half (62.5%) percent, basketball/volleyball courts at fifty-six (56%) percent and weight rooms seventy-five (75%) percent were provided. Thirty-five and three-tenths (35.3%) percent of the agencies provide lessons for an average fee of $18.87 in which an average of 8.5 lessons are provided for the fee at a cost of $2.30 per lesson. Such lessons as tennis at sixty-five and nine-tenths (65.9%) percent and aerobic dance at fifty-three (53%) percent are offered in which non-residents paid a thirty-five (35%) percent additional fee. Leagues were offered by fifty-nine and three-quarters (59.75%) percent of the agencies with softball at eighty-eight (88%) percent and basketball at eighty (80%) percent being the most popular. Approximately eleven (11.62) games were offered per fee charged by twenty (20%) percent of the agencies. Twenty-seven and four-tenths (27.4%) percent of the agencies offer tournaments requiring an average fee of $12.88 for individuals and $75.16 for teams with a two game guarantee. A twelve and one-half (12.5%) percent additional fee was charged by seven (7%) percent of the agencies. U.S. Census Bureau and Bureau of Economic Analysis data was obtained to determine per capita incomes per state in which the total averaged U.S. per capita income was found to be $14,937.00. The Northeast Region of the country has the highest per capita income of one hundred fifteen and sixty-nine hundredths (115.69%) percent while the South Region has the lowest at eighty-nine and seventy-one hundredths (89.71%) percent. The standard parks and recreation fee was adjusted by the per capita income figure to create an adjusted pricing model. It was found that no regions of the country adjust fees by per capita income and great variation exists in per capita pricing adjustment (from a decrease of 43% to an increase of 63.5%). A per capita pricing worksheet was developed for local applications.

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INTRODUCTION

Public parks and recreation agencies have felt pressure from two opposite sides of the issue of pricing their services. From the private enterprise system, public agencies have been asked to increase their fees so that private business can more effectively compete with the usually lower public fees. The argument is generally presented this way, "as a business and as an individual tax payer, the private recreation enterprise and its owners pay taxes that support their competition -- the local government agency -- these taxes are then used to subsidize the parks and recreation agencies programs." Adjacent to this argument is the suggestion from the citizen that "taxes are too high and public services cost too much. Continue with the service, but find some way to reduce the cost so that all people can have an opportunity to participate in public supplied parks and recreation programs". The typical parks and recreation director must also add to this dilemma the reality that fees and charges must in some way or another help pay for the actual costs, or some portion thereof, of the programs that are provided.

Administrators have attempted to find solutions to their pricing questions from a variety of different vantage points such as:

1. Price the fee exactly to the cost of the program, but no more, so that profitability is not occurring in the public sector.
2. Create an enterprise account and charge fees that not only pay for the program but leaves some level of profit to improve program delivery in the future.
3. Select some fee that is realistic for the majority of the residents to pay regardless of the relationship of the fee to the actual cost of the program.
4. Use whatever fee has been charged in the past and don't concern oneself with why that fee was selected to begin with.
5. Charge fees that are somewhat consistent with other public parks and recreation agencies in communities that are similar to your own.

One approach that has not been suggested in the parks and recreation literature to this point in time is to base the fees on a percent of the local citizen income. In this way one community with a higher average per household income would pay a higher fee for the public service ostensibly because the average citizen has a greater financial ability to do so, while a community with a lower average per household income would pay a lower fee - once again because those citizens appear to be less able to pay for those services. Likewise, within the same community, a public agency might provide a recreation center in the lower income inner city area and also a recreation center in a highly affluent suburb and hence could rightfully justify a discrepancy in the two centers entrance fees.

STUDY METHODOLOGY

To determine if a per capita pricing structure is possible, this study of public parks and recreation agencies throughout the United States was undertaken to develop a mathematical pricing formula sensitive to local spending abilities. This study created a data gathering instrument collecting specific pricing information from public parks and recreation agencies, established national, regional and local per capita income levels, developed national average parks and recreation pricing structures; and then, determined a mathematical model of pricing.

Creation Of Data Instrument

A survey instrument was created as the primary data gathering tool in which six (6) questions were structured with one hundred twenty (120) sub-questions categories. These questions dealt with the study focus areas of fees and charges, pricing structures, resident verse non-resident pricing differences, program options and charges, employment demands, usage figures, and population and budget sizes. The instrument was pilot tested in the State of Utah by one hundred eight (108) public parks and recreation agencies representing a variety of cities and townships statewide. The instrument generated the types of information desired and with the exception of total survey completion (typical of survey research methodology) the instrument was found suitable for this study. The survey instrument provided three methods of determining the origination of the respondent. The respondent was given the option of identifying their agencies (85.2 percent of the respondents choose to do so), additionally the return post mark on the instrument identified the city of mailing, also each instrument was color coded by state for identification purposes. Therefore, the origination of all instruments was possible. (See Appendix A for survey instrument)

Determination Of Study Population

The United States was broken down into four geographic regions following the U.S. Census Map categorization of states by region. Then the population of each state and region was determined through the same source so that a sampling by population method could be utilized. Six hundred three (603) surveys were distributed to all fifty states with each states share of surveys proportionate to their respective share of the total population of the United States. The specific agencies contacted in each state was arbitrary with four hundred seventy (470) usable surveys analyzed which is a usable survey return rate of seventy-eight and three-tenths (78.3%) percent.

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#	WEST	#	NORTHCENTRAL	#	NORTHEAST	#	SOUTH
48	Alaska	46	North Dakota	4	Pennsylvania	34	West Virginia
39	Hawaii	45	South Dakota	9	New Jersey	19	Maryland
37	New Mexico	36	Nebraska	2	New York	47	Delaware
27	Arizona	32	Kansas	28	Connecticut	13	Virginia
1	California	21	Minnesota	42	Rhode Island	10	No. Carolina
30	Oregon	29	Iowa	12	Massachusetts	24	So. Carolina
20	Washington	15	Missouri	49	Vermont	13	Georgia
44	Montana	17	Wisconsin	40	New Hampshire	5	Florida
50	Wyoming	5	Illinois	38	Maine	22	Alabama
6	Colorado	14	Indiana			31	Mississippi
35	Utah	8	Michigan			18	Louisiana
43	Nevada	6	Ohio			3	Texas
41	Idaho					25	Oklahoma
						33	Arkansas
						15	Tennessee
						23	Kentucky

% Pop.	18.00	31.00	21.00	30.00
# sent surveys	108	186	126	180
# surveys returned	80	160	117	113
% returned	74.0	86.0	92.8	62.3

Table 1: States in United States by region as determined by the U.S. Census Bureau. Population percent of each region and proportionate percent of surveys.

Note: # = Rank by population

The returned surveys represented an appropriate and viable population agency representation for the Northcentral, Northeast and West regions. However, the South region was under represented with a disportionately lower return rate from the specific states of Georgia, Texas and Florida. The strength of generalization of the results of this research specifically regarding the southern region of the United States is cautioned.

Determination of National Per Capita Income Levels

To determine the per capita income levels, the Bureau of Economic Analysis findings of the U.S. Census Bureau research was utilized in which the "Statistics of Income Tax Returns" was analyzed for the 1987 year.

Complete analysis of the 1988 year was not currently available, but a projected per capita income adjustment suggestion from 1987 to 1988 includes:

Region	%	Region	%
New England	+6.5	Great Lakes	+4.1
Mideast	+5.5	Plains	+4.1
Far West	+4.5	Rocky Mt.	+2.8
Southeast	+4.3	Southwest	+1.0

Table 2: Percent anticipated increase in per capita income by regions of the United States.

The purpose in selection of per capita income (total income divided by each member of the reporting household) as opposed to per household income (total income divided by the number of reporting households) or gross income per filing return is that the per capita income is the most reflective measure of citizen real and discretionary income. The following is the per capita income levels by state with the rank of the state as compared to other states with larger per capita income rating a lower number. Also reported is the percent that the individual states per capita income represents of the total average per capita income of the United States.

STATE	PER CAPITA INCOME	RANK	%OF NATIONAL INCOME
Alabama	$11,940	43	79.93%
Alaska	18,230	4	122.04
Arizona	14,315	26	95.83
Arkansas	11,507	46	77.03
California	17,821	7	119.30
Colorado	15,584	16	104.33
Connecticut	21,255	1	142.37
Delaware	16,696	9	111.77
District of Columbia	20,457	-	136.95
Florida	15,584	17	104.33
Georgia	14,300	28	95.73
Hawaii	15,679	14	104.96
Idaho	11,868	45	79.45
Illinois	16,443	11	110.07
Indiana	13,914	32	93.15
Iowa	14,236	29	95.30
Kansas	15,126	21	101.26
Kentucky	12,059	11	80.73
Louisiana	11,473	47	76.80
Maine	13,954	31	93.41
Maryland	18,124	5	121.33
Massachusetts	19,142	3	128.13
Michigan	15,393	19	103.05
Minnesota	15,927	13	106.62
Mississippi	10,292	50	68.90

Missouri	14,687	23	98.32
Montana	12,347	40	82.66
Nebraska	14,328	25	95.92
Nevada	16,366	12	109.56
New Hampshire	17,529	8	117.35
New Jersey	20,352	2	136.25
New Mexico	11,875	44	79.50
New York	18,004	6	120.53
North Carolina	13,314	34	89.13
North Dakota	13,004	35	87.05
Ohio	14,612	24	97.82
Oklahoma	12,551	38	84.02
Oregon	14,041	30	94.00
Pennsylvania	15,212	20	101.84
Rhode Island	15,555	18	104.13
South Carolina	12,004	42	80.36
South Dakota	12,550	39	84.01
Tennessee	12,880	36	86.22
Texas	13,866	33	92.82
Utah	11,366	48	76.09
Vermont	14,302	27	95.74
Virginia	16,517	10	110.57
Washington	15,599	15	104.43
West Virginia	11,020	49	73.77
Wisconsin	14,742	22	98.69
Wyoming	12,709	37	85.08
TOTAL AVERAGE	14,937	-	100.00

Table 3: Per capita Income by state with state ranking of per capita income and percent that state per capita income is of total U.S. per capita income.

By region the per capita income level is reflected by the following chart in which the Northeast region has the highest per capita income and the South region has the lowest.

Region	Average per capita income	%of National Ave.
West	$14,446	96.84
North Central	14,580	97.74
North East	17,257	115.69
South	13,382	89.71
Regional Ave.	$14,916	100.00

Table 4: Average per capita income and percent of national average by regions of the United States.

Reflective of this trend is the following chart which identifies the five highest per capita income states and their regions and the lowest per capita income states and their regions.

HIGHEST PER CAPITA STATE		REGION	LOWEST PER CAPITA STATE		REGION
1. Connecticut	$21,266	NE	50. Mississippi	$10,292	S
2. New Jersey	20,352	NE	49. W. Virginia	11,020	S
3. Massachusetts	19,142	NE	48. Utah	11,366	W
4. Alaska	18,230	W	47. Louisiana	11,473	S
5. Maryland	18,124	S	46. Arkansas	11,507	S

Table 5: Highest and lowest per capita incomes by state and region in the United States.

Determination of National Average Parks and Recreation Pricing Structures

The data instrument was returned from four hundred seventy (470) agencies representing a seventy-eight (78%) percent return rate of usable survey instruments. Through responses to the survey questions national pricing standards were developed for the areas of recreation center admissions, facility usage charges, lesson fees, league fees and tournament charges. With the information of average fees charged, a community could compare their fees and charges to the "national average" and have some feel for the economic logic of their communities fees and charges. If a community was particularly out of line with the national or regional average, either high or low, then some critical reflection might be justified. However, a national average does not address the specific ability to pay issue of the local citizen, even though, a national average is extremely helpful in understanding a comparison of charges.

Recreation Centers: National Entrance Fee Standard

It was found that thirty-three and one-half (33.5%) percent of the communities provide a recreation center as a service to local residents with twenty-three (23%) percent charging an entrance fee for the use of the facility. The average fee for all categories was $2.65 with a national range of $.95 - $3.58 with non-residents required to pay an average of fourteen (14%) percent higher fee. However, only five and one-half (5.5%) percent of the agencies required non-residents to pay the higher fee.

Entrance Category	Resident	Range	% of ave. fee	Non-Res.	Range	% of ave. fee
Adult	$3.26	$ 1.-10.	123.0%	$4.10	$ 1-12.	133.1%
Youth 1-11	2.20	.75-8.	83.0	2.55	.75-10.	82.7
Family	4.50	2.50-6.	169.8	5.00	2.5-10.	162.2
Sen.Cit.	1.05	free-1.50	39.6	1.25	free-1.50	40.5
Student-18	2.27	.50-5.	85.6	2.50	.50-5.	81.1
Ave.total	$2.65	.95-3.58	100.0	$3.08	.85-3.74	100.0

Table 6: Average fees, ranges and percent of average fee for residents and non-residents for recreation center entrance by entrance category.

It can be determined that senior citizens are required to pay an entry fee that is approximately forty (39.6%) percent of the average entry fee while families pay more than one and one-half (169.8%) times the average entry fee.

Once entrance to the recreation center occurs either through a fee or non-fee basis a variety of open-recreation facilities are available for a fee or a non-fee basis. The most common type of recreation center entitlement was a weight room, seventy-eight (78%) percent with tennis courts being the least available entitlement, eighteen (18%) percent. The most expensive additional fee was for racquetball courts ($4.45) charged by sixteen (16%) percent of the centers with track being the least expensive (.10 cents) with twenty-five (25%) percent of the centers charging this additional fee.

Patron Entitlement	% offering this facility	% charging and Add. fee	Additional fee if not included in entry fee
Shower/Locker	62.5%	62%	$1.00
Racquetball	50.0	16	4.45
Track	31.0	25	.10
Basket/Volley	56.0	50	1.00
Tennis	18.0	12	2.00
Weight Room	75.0	50	2.16
Game Room	37.5	37	1.00
Sauna/Steam	25.0	18	2.00
Average	44.3%	33.75%	$1.94

Table 7: Patron entitlement, percent of availability, percent of additional fee and average additional fee.

When computing the average entry fee ($2.65) with the average additional fee ($1.94), a resident might spend an average of $4.59 while a non-resident ($3.08 + 1.94) might spend $5.02 which is an average of nine (9%) percent higher fee for the non-resident.

Lessons: National Fee Standard

It was determined that the average lesson fee for all categories was $18.87 with a range in charges from $7.14 - $34.85 depending on the type of lesson. The most common lesson offering was tennis, sixty-five at nine-tenths (65.9%) percent with cooking being the least offered lesson format, twelve (12%) percent. The most expensive lesson in fee charged was aerobic dance ($25.68) with the least expensive being racquetball at $14.25.

Lesson offering	% providing this offering	Resident fee	Range	Ave. No. of lessons for fee	Range of lessons
Tennis	65.9%	$15.24	$3.50-35.	8	1 - 16
Racquetball	12.7	14.25	10.-20.	6	5 - 10
Self Defense	34.0	18.12	8.-30.	8	4 - 20
Cooking	12.0	21.70	free-34.	7	6 - 10
Gymnastics	42.5	15.41	9.-25.	10	4 - 12
Aerobics	53.0	25.68	12.-60.	14	6 - 36
Golf	27.0	21.73	75.-40.	7	4 - 12
Ave. Total	35.3%	$18.87	$7.14-35.	8.5	4 - 16

Table 8: Lesson offerings, percent offering those options, resident fee and range of fees and average number of lessons for fee and range of number of lessons.

However, when computing the fee by the number of lessons provided, then gymnastics is the least expensive for the patron at $1.54 per lesson with cooking and golf the most expensive at $3.10 per lesson.

Lesson offering	Average Resident fee per lesson	Average non-resident fee per lesson
Tennis	$1.90	$2.58
Racquetball	2.37	4.16
Self Defense	2.26	2.14
Cooking	3.10	6.35
Gymnastics	1.54	1.81
Aerobic Dance	1.83	1.85
Golf	3.10	3.30
Average Total	$2.30	$3.20

Table 9: Lesson offering, average resident and average non-resident fee per lesson.

The non-resident paid an average lesson fee of $22.91 which with a thirty-five (35%) percent of the agencies chargeing non-residents an additional fee.

Lesson offering	Non-Resident fee	% Charging NR fee	% NR fee is +
Tennis	$20.64	35%	35%
Racquetball	25.00	16	75
Self Defense	19.35	43	6
Cooking	44.50	33	105
Gymnastics	18.15	58	19
Aerobic Dance	26.03	28	1
Golf	23.10	38	6
Average Total	$22.91	35%	35%

Table 10: Lesson offering with non-resident fee, percent charging a non-resident fee, percent that non-resident fee is greater than resident fee.

The average number of lessons offered a patron was eight and one-half (8.5) with a range of from, as few as, one (1) lesson to as many as thirty-six (36) for the fee.

Leagues: National Fee Standard

The most common and expensive adult league play nationwide was softball with eighty-eight (88%) percent of the agencies providing this competition element with an average team fee of $278.00. The most common youth league was softball and baseball (both 63%) with an average fee of $14.21 and $16.13 respectfully.

League offering	% providing this offering	Resident fee	Range	Ave. # of games/fee	Range of games
Softball (Adult)	88%	$278/team	$ 70-500	16	9 - 30
Basketball (Adult)	80	240	100-375	13	8 - 20
Flag Football (A)	21	158	60-300	9	8 - 10
Volleyball (Adult)	77	107	65-200	12	8 - 30
Flag Football (Y)	25	18/indiv.	free-28	9	8 - 15
Softball (Youth)	63	14.21	3-35	12	6 - 16
Baseball (Youth)	63	16.13	3-35	12	6 - 21
Basketball (Youth)	61	12.17	4-25	10	6 - 20
Total Average	59.75	$195/team $15.12/in	$75-345/t $2.5-30/i	11.62	7 - 20

Table 11: League offerings, percent offering this option, resident fee, range of resident fee number of games for fee and range of games offered for fee.

The most inexpensive adult team league per game was volleyball at $8.91 with basketball the most expensive at $18.46 per game. For youth the least expensive was softball at $1.18 per game with flag football the most expensive at $2.00 per game. However, the non-resident saw a greater per game expense for adult flag football and least expensive for youth was softball. The average league fee for adult teams was $15.57 for residents and $18.51 for non-residents, a 13.75% increase. For individuals the average league fee was $1.43 for residents and $1.64 for non-residents.

League offering	Average Resident fee/game	Ave. N.R. fee/game
Softball (A)	$17.37	$20.37
Basketball	18.46	18.92
Flag Football	17.55	23.00
Volleyball	8.91	11.75
Flag Football (Y)	2.00	2.22
Softball	1.18	1.34
Baseball	1.34	1.56
Basketball	1.21	1.47
Average total	$15.57/team-$1.43/individual	$18.51/team-$1.64/individual

Table 12: League offerings, average resident fee per game, average non-resident fee per game.

The non-resident was required to pay an average of thirteen (13%) percent higher fee for league play but only twenty (20%) percent of the agencies charged an additional fee for leagues compared to lessons which was an average additional fee for thirty-five (35%) percent.

Leagues offered	N.R. fee	% Charging N.R. fee	% N.R. fee is add.+
Softball	$326/team	17%	15%
Basketball	246	15	3
Flag Football	207	18	24
Volleyball	141	23	25
Flag Football	$ 20.00/in	16	9
Softball	16.14	25	15
Baseball	18.83	20	15
Basketball	14.75	27	18
	$230.team		
Average Total	$ 17.43/in	20	13.75

Table 13: League offerings, non-resident fee, percent charging a non-resident fee, percent non-resident fee is higher than resident fee.

Leagues guaranteed almost twelve (12) games for the fee paid with a range of seven to twenty games (7-20).

Tournaments: National Fee Standard

The most popular tournament provided by recreation agencies nationally were softball, fifty-one (51%) percent with racquetball being the least popular tournament at ten (10%) percent. The most expensive tournament was softball both or a straight team fee ($104.56) and on a cost per game ($147.52). The least expensive was racquetball ($14.00).

Tournaments offered	% providing this offering	Resident fee	Range	Ave. # of games	Range of games
Tennis	23%	$ 11.77	$ 4.00- 25.00	1	1 - 3
Softball	51	104.56	70.00-150.00	2.2	2 - 3
Basketball	32	73.42	25.00-310.00	2	1 - 3
Racquetball	10	14.00	15.00- 25.00	2	1 - 2
Volleyball	21	47.50	50.00-100.00	2	2 - 6
		$12.88/in	$ 9.5 -25/indiv		
Total Ave.	27.4%	$75.16/te	$47.5-230/team	2	1.4-3.2

Table 14: Tournaments offered, percent providing this type of tournament, average resident fee, range of fees, average no. of games, range of games.

The average fee per game for individual tournaments was $9.38 and $35.99 for teams for residents. For non-residents the per game fee was twelve and one-half (12.5%) percent higher. Only three (3%) percent of the agencies charged a non-resident an additional fee for team play, while eleven (11%) percent charged for individual tournament play with an average of twelve and one-half (12.5%) percent additional. The residents per game fee was $15.50 for individuals and $84.00 for team for non-residents.

Tournaments offered	Ave. Resident fee/game	Ave. N.R. fee/game
Tennis	$11.77	$15.00
Softball	47.52	56.81
Basketball	36.71	39.00
Racquetball	7.00	8.00
Volleyball	23.75	24.50
Total Average	$9.38/indiv.-$35.99/team	$11.50/indiv.-$40.10/team

Table 15: Tournaments offered with average resident and non-resident fee per game.

Tournaments offered	N.R. fee	% N.R. fee	% N.R. fee is add.
Tennis	$ 15.00	20%	22%
Softball	125.00	4	17
Basketball	78.00	4	6
Racquetball	16.00	2	14
Volleyball	49.00	2	3.5
Total Average	$15.50/in $84./team	11% individ. 3% team	12.5%

Table 16: Tournaments offered, average non-resident fee, percent charging an additional non-resident fee and percent of additional fee.

Development of a National Mathematical Model of Pricing

If the logic holds true that citizens with lower per capita incomes are in a less favorable position to pay public parks and recreation service fees then a local income percent adjustment could be developed to better reflect the citizens ability to pay those services. Additionally, if an area experienced a higher income level, then there exists a greater ability to pay for services and perhaps a higher service fee could be justified. The one area that is not addressed by this formula is the actual costs of rendering the public parks and recreation service. This formula is based solely on the average fees charged throughout the country coupled with the per capita incomes for each state. To determine the adjusted fee and percent by adjusting for per capita incomes, the average per capita income for each state was identified and what percent that the income represents of the total U.S. per capita income was created. Then the average national fee was selected and what percent of the national per capita income that the fee represents was determined. Table 17 shows how this formula might be applied to the Northeast region of the United States for recreation center adult entrance fees.

Northeast Region	Per Capita Income	% PCI National PCI	Adjusted fee
Pennsylvania	$15,212	101.84%	$3.32
New Jersey	20,352	136.25	4.44
New York	18,004	120.25	3.93
Connecticut	21,266	142.37	4.64
Rhode Island	15,555	104.37	3.39
Massachusetts	19,142	128.13	4.18
Vermont	14,302	95.74	3.12
New Hampshire	17,529	117.35	3.83
Maine	13,954	76.80	2.50
Regional Averages	$17,257	115.69%	$3.70

Table 17: Per capita income for the Northeast region with percent that states per capita income represents of the total U.S. PCI with adjusted adult entry fee for recreation center: (National adult entry fee of $3.26).

It can be seen that the Northeast region experienced on the higher a per capita income that is one hundred sixteen (116%) percent than the national per capita income. Therefore, the national average adult recreation center entrance fee of $3.26 can be adjusted to $3.70 which is a sixteen and sixty-eight hundredths (16.68%) percent increase for the region.

For purposes of demonstrating the lesson fee adjustment, the West region of the United States has been utilized in which the average per capita income is $14,446 and the national lesson fee for all types of lessons is $18.87. Table 18 shows that for this region an adjustment of 3.29% downward is appropriate.

West Region	Per Capita Income	% PCI Natl. PCI	Adjusted Fee
Alaska	$18,230	122.04%	$23.03
Hawaii	15,679	104.96	19.81
New Mexico	11,875	79.50	15.00
Arizona	14,315	95.83	18.98
California	17,821	119.30	22.51
Oregon	14,041	94.00	17.73
Washington	15,599	104.43	19.71
Montana	12,347	82.66	15.60
Wyoming	12,709	85.08	16.05
Colorado	15,584	104.33	19.69
Utah	11,366	76.09	14.35
Nevada	16,366	109.56	20.69
Idaho	11,868	79.45	14.99
Regional Ave.	$14,446	96.84%	$18.24

Table 18: Per capita and percent of per capita income represents of total U.S. per capita income of the Western region with adjusted average lesson fee. (National average lesson fee of $18.84).

Generating a lesson fee average for this region of $18.24. However, it should be noted that the range in regional fees is from a low of $14.35 (Utah) to a high of $23.03 (Alaska) which is a sixty-two and three tenths (62.3%) percent difference in average lesson fee.

The North Central region was utilized to create the team and individual league fee structure adjusted for per capita income. As noted, this region has a per capita income of ninety-seven and seventy-four hundredths (97.74%) percent of the national per capita income in which $14,580 is the average.

Northcentral Region	Per Capita Income	% PCI is of National PCI	Adjusted Fee Team	Individual
N. Dakota	$13,004	87.05%	$169.75	$13.16
S. Dakota	12,550	84.01	163.81	12.70
Nebraska	14,328	95.92	187.04	14.48
Kansas	15,126	101.26	197.46	15.11
Minnesota	15,927	106.62	207.91	16.12
Iowa	14,236	95.30	194.84	14.41
Missouri	14,687	98.32	191.71	14.87
Wisconsin	14,742	98.69	192.45	14.92
Illinois	16,442	110.07	214.64	16.64
Indiana	13,914	93.15	181.64	14.08
Michigan	15,393	103.05	200.95	15.58
Ohio	14,612	97.82	190.75	14.79
Region Ave.	$14,580	97.74%	$191.08	$14.73

Table 19: Per capita income and percent per capita income represents of the national per capita income of the Northcentral region with adjusted average team and individual league fees. (National average team and individual league fees are $195.00 and $15.12 respectively).

The adjusted fee is $191.08 for teams and $14.73 for individuals in the league format. There is a twenty-three and sixty-eight hundredths (23.68%) percent difference in ability to pay in the region from the States of Illinois to South Dakota.

South Region	Per Capita Income	% PCI is of National PCI	Adjusted fee Team	Individual
W. Virginia	$11,020	73.77%	$55.45	$ 9.50
Maryland	18,124	121.33	91.19	15.63
Delaware	15,595	111.77	84.00	14.39
Virginia	16,517	110.57	83.10	14.24
N. Carolina	13,314	89.13	66.99	11.48
S. Carolina	12,004	80.36	60.39	10.35
Georgia	14,300	95.73	71.95	12.33
Florida	15,584	104.33	78.41	13.44
Alabama	11,940	79.93	60.07	10.29
Mississippi	10,292	68.90	51.78	8.87
Louisiana	11,473	76.80	57.72	9.89
Texas	13,866	92.82	69.76	11.95
Oklahoma	12,551	84.02	63.15	10.82
Arkansas	11,507	77.03	57.89	9.92
Tennessee	12,880	86.22	64.80	11.10
Kentucky	12,059	80.73	60.68	10.40
Region Ave.	$13,382	89.71%	$67.33	$11.55

Table 20: Per capita income and percent of national per capita income that the state represents of the South region with adjusted tournament fees for teams and individuals. (National average team and individuals tournament fees are $75.16 and $12.88 respectively).

The South region maintains a per capita income of eighty-nine and seventy-one hundredths (89.71%) percent of the national per capita income which represents $13,382 for the regional average. Adjusting the national team and individual tournament fees by the per capita percentage a regional and state by state fee structure is developed. There exists a wide range of per capita percentages in the region from one hundred twenty-one and one-third (121.33%) percent to sixty-eight and nine-tenths (68.9%) percent which is a difference in tournament fees for an individual of $15.63 down to $8.89, a fifty-six (56%) percent difference. The average tournament fee is $67.33 for teams and $11.55 for individuals down from the national standard of $75.16 and $12.88 respectively.

Per Capita Pricing Compliance

To the extent that this formula is economically logical as a basis for establishing local parks and recreation fees, then worksheets of per capita pricing formulas should prove helpful. It should be noted that from a review of the findings that the per capita approach appears not to be utilized as the primary pricing formula.

	West		N. Central		Northeast		South	
Recreation Center fees								
-Current Charge	$ 1.62		$ 5.00		$ 3.50		$ 2.00	
-Per Capita Charge	3.15		3.18		3.77		2.92	
-% Difference	+94.4%		-36.4%		+7.7%		+46.0%	
Lesson Fees								
-Current Charge	$18.92		$21.55		$23.00		$21.88	
-Per Capita Charge	18.27		18.44		21.83		16.92	
-% difference	-3.4%		-14.4%		-5.0%		-22.6%	
League Fees	T	I	T	I	T	I	T	I
-Current Charge	$220	$14.5	$189	$14.6	$379	$14	$235	$13.7
-Per Capita Charge	189	14.64	190	14.77	225	17.5	175	13.56
-% difference	-14%	+.9%	+.5%	+.8%	-40.6	+.25%	-25.5	-1%
Tournament Fees								
-Current Charge	130	20.00	103	20.00	82.50	6.25	81.81	17.00
-Per Capita Charge	72.78	12.58	73.46	12.58	86.95	14.90	64.72	11.55
-% difference	-44%	-37.1	-28.6	-37.1	-5.3%	+38.0	-17.5	-32%

Table 21: Regions with current charges, suggested per capita charge and percent differences for recreation centers, lesson fees, league fees and tournament fees.

Currently in the recreation center entrance fee area the range in changes in fees should be altered from an increase in the West of ninety-four (94%) percent to a decrease of thirty-six and four-tenths (-36.4%) percent in the Northcentral region. In the lesson fee area all regions should establish a decrease pattern with an average decrease of eleven and thirty-five hundredths (-11.35%) percent. The league fees are the closest in following a per capita fee schedule particularly in the individual league fees. Tournament fees experienced a wide variety in compliance to this formula with a range of a decrease of forty-four (-44%) percent in the West to and increase of thirty-eight (38%) percent in the Northeast region.

	WEST		NORTH CENTRAL		NORTH EAST		SOUTH	
Center and Lessons	+91.0%		-50.8%		+2.7%		+23.4%	
	T	I	T	I	T	I	T	I
Leagues and Tournaments	-5.8	-36	-28.1	-36.3	-35.3	+63.5	-43.	-33.

Table 22: Total percent charges for center/lessons and for leagues/tournaments for the four regions.

Table 22 indicates in the center and lesson area that in the total for each region there is a difference of ninety-one (91%) percent increase to a fifty and eight-tenths (-50.8%) percent decrease. In the leagues and tournament area there is a difference of forty-three (-43.0%) percent decrease to an increase of fifty-three and one-half (53.5%) percent increase recommended. It is clear that per capita pricing structures is not the basis for fee establishments and compliance is not in place in any of the regions or in any of the recreations format areas. However, there is some indication that league fees come close in pricing structure.

SUMMARY OF MAJOR FINDINGS

The following is a listing of the major findings from this research project. It was the intent of the project to identify the current parks and recreation fee structure and then to develop a per capita pricing model. Ancillary findings include if compliance exists regarding this formula.

1. The average per capita income in the United States was $14,937 with Connecticut the highest per capita income state at $21,266 or 142.37% of the national average. The lowest per capita state was Mississippi with 68.90% of the national average at $10,292.

2. The Northeast Region had the highest per capita income with the South Region experiencing the lowest with (115.69% to 89.71) of national per capita income respectively.

3. The national pricing standard for recreation center entrance for all categories was $2.65 for residents and $3.08 for non-residents. Thirty-three and one-half (33.5%) percent of the communities provide a recreation center with 23% charging on entry fee and 5.5% charging non-residents an additional entry fee which averaged fourteen (14%) percent increase.

4. The most common facilities provided were weight rooms, showers/lockers and basketball/volleyball areas with few centers providing tennis facilities. Thirty-three and three-fourths (33.755%) percent of the centers charged an additional fee beyond the center entry fee to use these type facilities with an average additional fee of $1.94.

5. The average lesson fee for all categories was a $18.87 providing an average of 8.5 lessons at an average of $2.30 per lesson. Thirty-five and three-tenths (35.3%) percent of the agencies provided lessons with tennis, aerobic dance and gymnastics. The most popular is cooking and racquetball the least popular. Non-residents were required to pay an additional fee increase of thirty-five (35%) percent.

6. The most common league offerings were softball and basketball for adults and softball/baseball and basketball for youth. The average adult team fee was $195.00 and the average youth individual fee was $15.12. Leagues provided an average of 11.62 games per season with team and individual game average costs of $14.47 and $1.43 respectively. Twenty (20%) percent of the agencies charged non-residents and additional league fee of thirteen and three-fourths (13.75% percent.

7. The most popular tournament was softball with racquetball the least offered. The average individual entry fee was $12.88 with team fee averaging $75.16. The cost per game was $9.38 and $35.99 for individual and team play respectively. The average number of games was two (2) with non-residents paying a twelve and one-half (12.5%) percent increase for tournament fees.

8. The average per capita income adjusted recreation center fee was $3.70 or a thirteen and sixty-eight hundredths (13.68%) percent increase (Northeast Region). The average per capita income adjusted lessons fee was $18.24 a three and one-fifth (3.2%) percent decrease (West Region) while team league fees of $191.08 and individual league fees of $14.73 (Northcentral Region) would follow the formula. The adjusted tournament fee decreasing ten and twenty-nine hundredths (10.29%) percent would be $67.33 for teams and $11.55 for individuals (South Region).

9. The per capita pricing formula was not in effect in any region or for any recreation format with suggested alterations ranging from a decrease in fee structure of forth-three (43%) percent (center entry fees) to an increase of sixty-three and one-half (63.55%) percent in individual league fees depending on the region of the country.

PER CAPITA PRICING WORKSHEETS

The following per capita pricing worksheets can be utilized by those agencies wishing to apply the per capita formula to their agencies service fees. The formula can be applied on a national scale, regional basis or state comparison, additionally agencies may obtain their specific communities per capita income and develop a similar formula specific to their local community. Regarding local application of this formula, the U.S. Census Bureau has available the per capita income of different census zones or planning districts within a specific community and an agency can adjust pricing structures for each different zone within a community if desired. The logic behind this specific zoning approach would be to reflect the differences of income for a low-income poverty area verses an affluent higher income area both within the same community and therefore, requiring different pricing strategies. To utilize the per capita pricing worksheet, determine current fee, multiply by the percent that the per capita income is of the total U.S. per capita income and determine the adjusted price.

RECREATION FORMAT	CURRENT FEE		PER CAPITA ADJ. RATIO		ADJ. PRICE
Recreation Center examples:					
Entry Fee	$ 3.26	X	89.72	=	$ 2.92
1. Adult fee		X		=	
2. Youth fee		X		=	
3. Family fee		X		=	
4. Senior cit. fee		X		=	
5. Student fees		X		=	
Lesson Fees	Ex. $ 15.24	X	115.42	=	$ 17.59
1. Tennis		X		=	
2. Racquetball		X		=	
3. Self Defense		X		=	
4. Cooking		X		=	
5. Gymnastics		X		=	
6. Aerobic Dance		X		=	
7. Golf		X		=	
8. Etc.		X		=	
League fees	Ex. $278.00	X	99.62	=	$276.94
1. Softball		X		=	
2. Etc.		X		=	
Tournament fees	Ex $ 73.42	X	72.49	=	$ 53.22
1. Etc.		X		=	

Where: Current fee is the fee currently charged for that service by the agency; per capita adjustment ratio is the percent of per capita income that the zone/city/state represents of the total U.S. per capita income; adjusted price is the new price by multiplying the per capita income percent by the current price.

RECREATION FORMAT	CURRENT FEE		PER CAPITA ADJ. RATIO		ADJ. PRICE
Recreation Center examples:					
Entry Fee	$ 3.26	X	89.72	=	$ 2.92
1. Adult fee		X		=	
2. Youth fee		X		=	
3. Family fee		X		=	
4. Senior cit. fee		X		=	
5. Student fees		X		=	
Lesson Fees	Ex. $ 15.24	X	115.42	=	$ 17.59
1. Tennis		X		=	
2. Racquetball		X		=	
3. Self Defense		X		=	
4. Cooking		X		=	
5. Gymnastics		X		=	
6. Aerobic Dance		X		=	
7. Golf		X		=	
8. Etc.		X		=	
League fees	Ex. $278.00	X	99.62	=	$276.94
1. Softball		X		=	
2. Etc.		X		=	
Tournament fees	Ex $ 73.42	X	72.49	=	$ 53.22
1. Etc.		X		=	

Where: Current fee is the fee currently charged for that service by the agency; per capita adjustment ratio is the percent of per capita income that the zone/city/state represents of the total U.S. per capita income; adjusted price is the new price by multiplying the per capita income percent by the current price.